The basics of being a SIGO

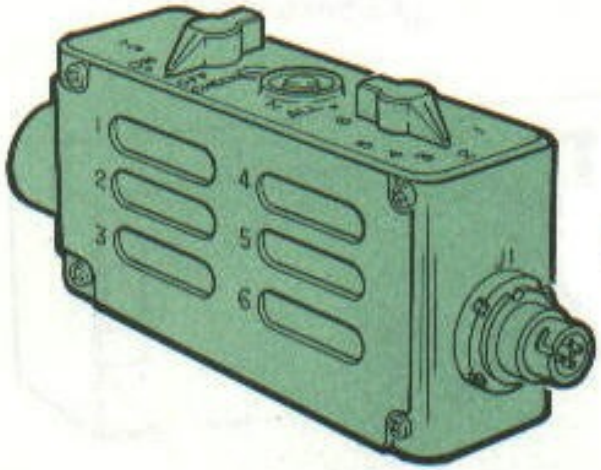
The commander’s voice

Outline

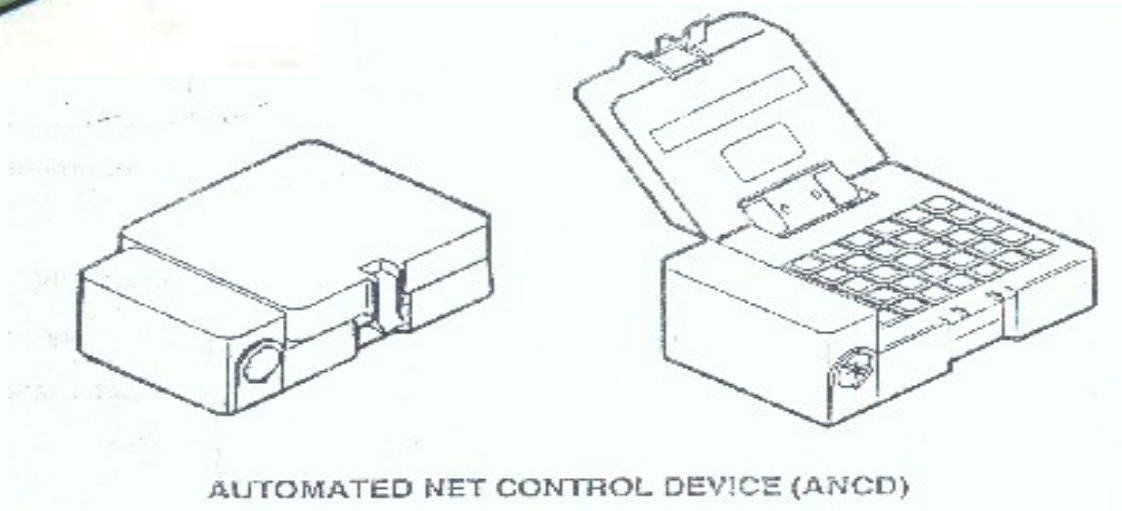
- Equipment
  - COMSEC
  - COMBAT NET RADIO
  - DATA DEVICES
  - PHONES
- Commo Section

INTRO TO S6 -
COMMS
EQUIPMENT

COMSEC



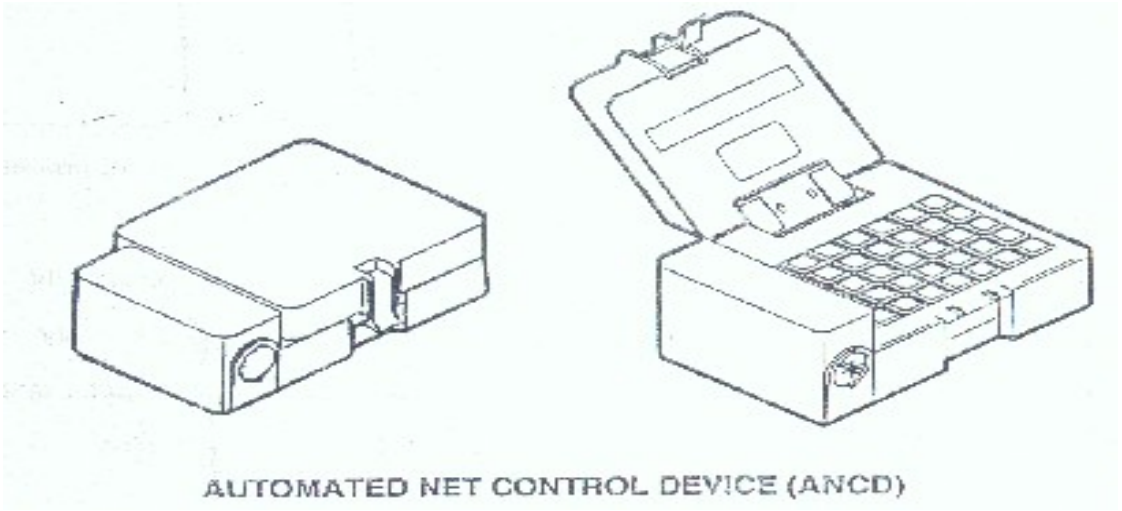
KYK-13



AUTOMATED NET CONTROL DEVICE (ANCD)

COMSEC/FILL DEVICES

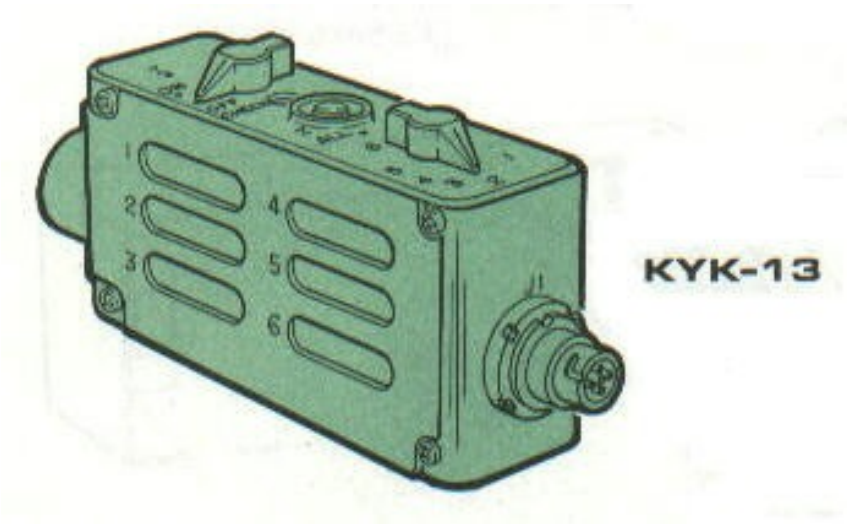
AN/CYZ-10 (ANCD) Automated Net Control Device



- A hand held PC compatible device that provides a standard platform for various COMSEC applications
- Stores the Signal Operating Instructions (SOI)

COMSEC/FILL DEVICES

KYK-13



- Holds and transfers COMSEC
- “Replaced” by the ANCD, but it still commonly seen, because of its ease of use and small size

RADIOS

COMBAT NET RADIO (CNR)

- PRIMARY MEANS OF COMMUNICATION WITHIN THE BRIGADE/BATTALION ENVIRONMENT.
- FULFILLS BRIGADE/BATTALION CDR'S REQUIREMENT FOR MOBILE C2.
- USER OWNED/OPERATED EQUIPMENT.
- DESIGNED AROUND 3 RADIO SYSTEMS:
  - SINGLE CHANNEL GROUND AIRBORNE RADIO SYSTEM (SINCGARS)
  - IMPROVED HIGH FREQUENCY RADIO (IHFR)
  - SINGLE CHANNEL TACTICAL SATELLITE (TACSAT)

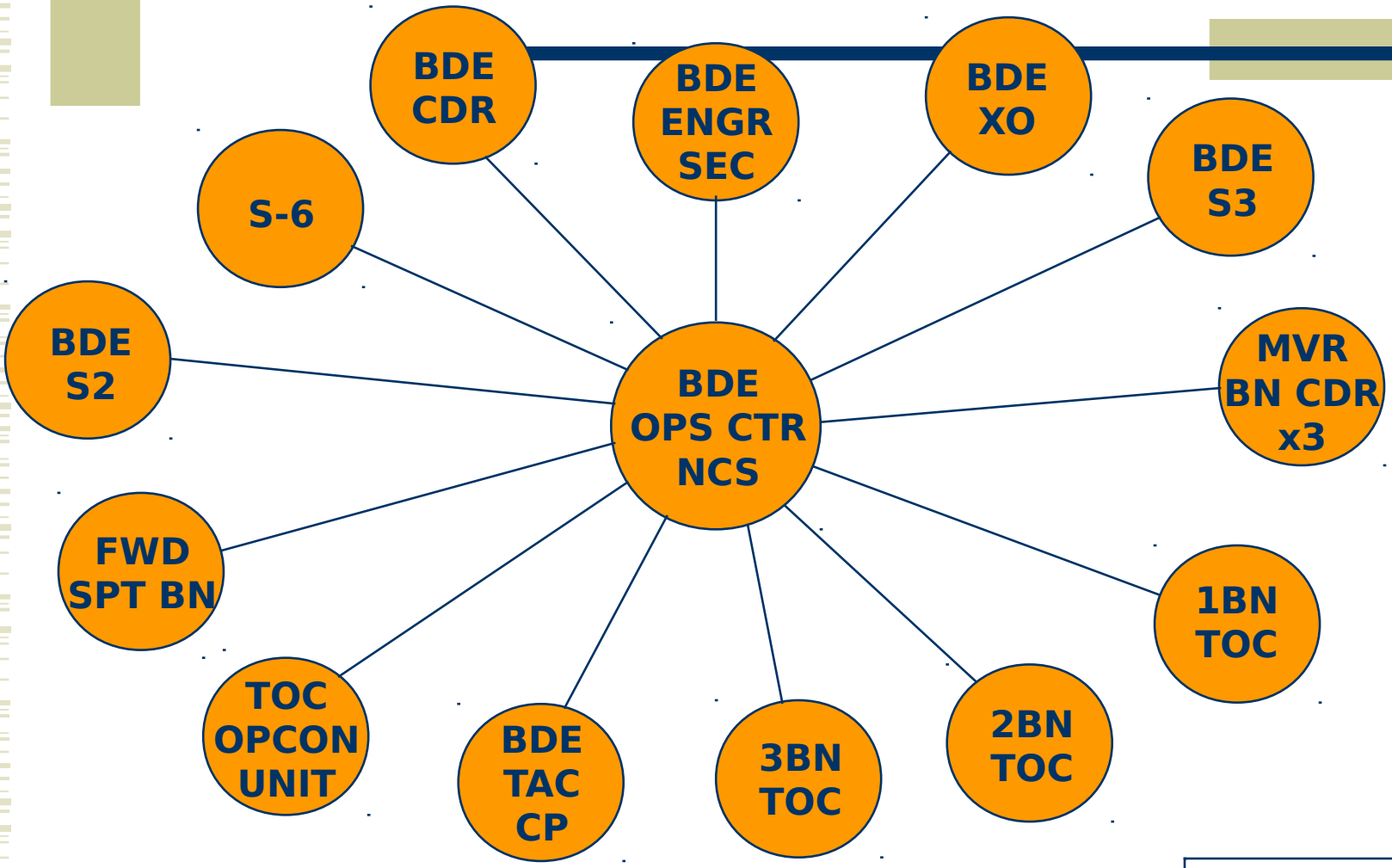
CNR SYSTEM PURPOSE

- THE **PRIMARY** PURPOSE IS TO PROVIDE COMMAND AND CONTROL (C2) VOICE COMMUNICATIONS FOR THE COMMANDER.
- A **SECONDARY** ROLE IS TO PROVIDE A MEANS FOR DATA TRANSMISSION.
- FOR **TACFIRE** SYSTEMS, CNR PROVIDES THE PRIMARY MEANS FOR TACFIRE DATA TRANSMISSION.

COMBAT NET RADIO

- Short-Range, Line-of-Sight (LOS) radios. Support nets which link elements operating in a small geographic area. Single-Channel Ground and Airborne Radio System (SINCGARS)
- Long-Range, beyond LOS. Support nets linking elements distributed over a wide area. The family of improved high frequency radios (IHFR).
- Single-Channel Tactical Satellite (TACSAT) radios. (Warfighter net linking Corps Cmdr w/subordinate units.)

SINCGARS



Typical FM Cmd/Ops Net

SINCGARS

Single Channel Ground & Airborne Radio System

- Primary means for short range (up to 35 km) secure voice at brigade and battalion level.

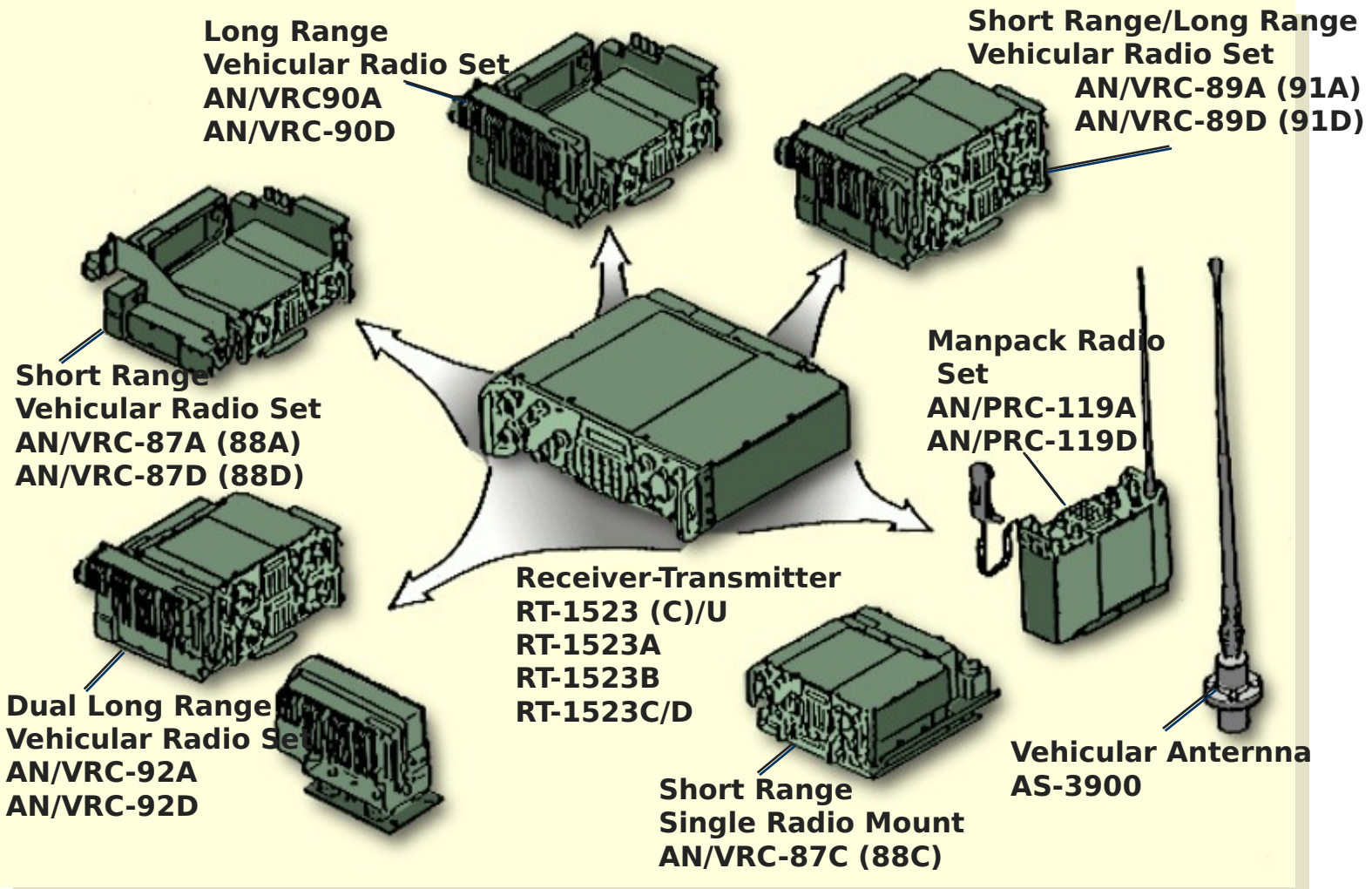
SINCGARS

Single Channel Ground & Airborne Radio System

- Provides
  - Single Channel
  - Frequency Hopping
  - Greater Reliability and Less vulnerabilities than previous radios
- Capabilities
  - Distance: 200 meters – 40 km (4 power settings)

SINCGARS

SINCGARS configurations



ASIP

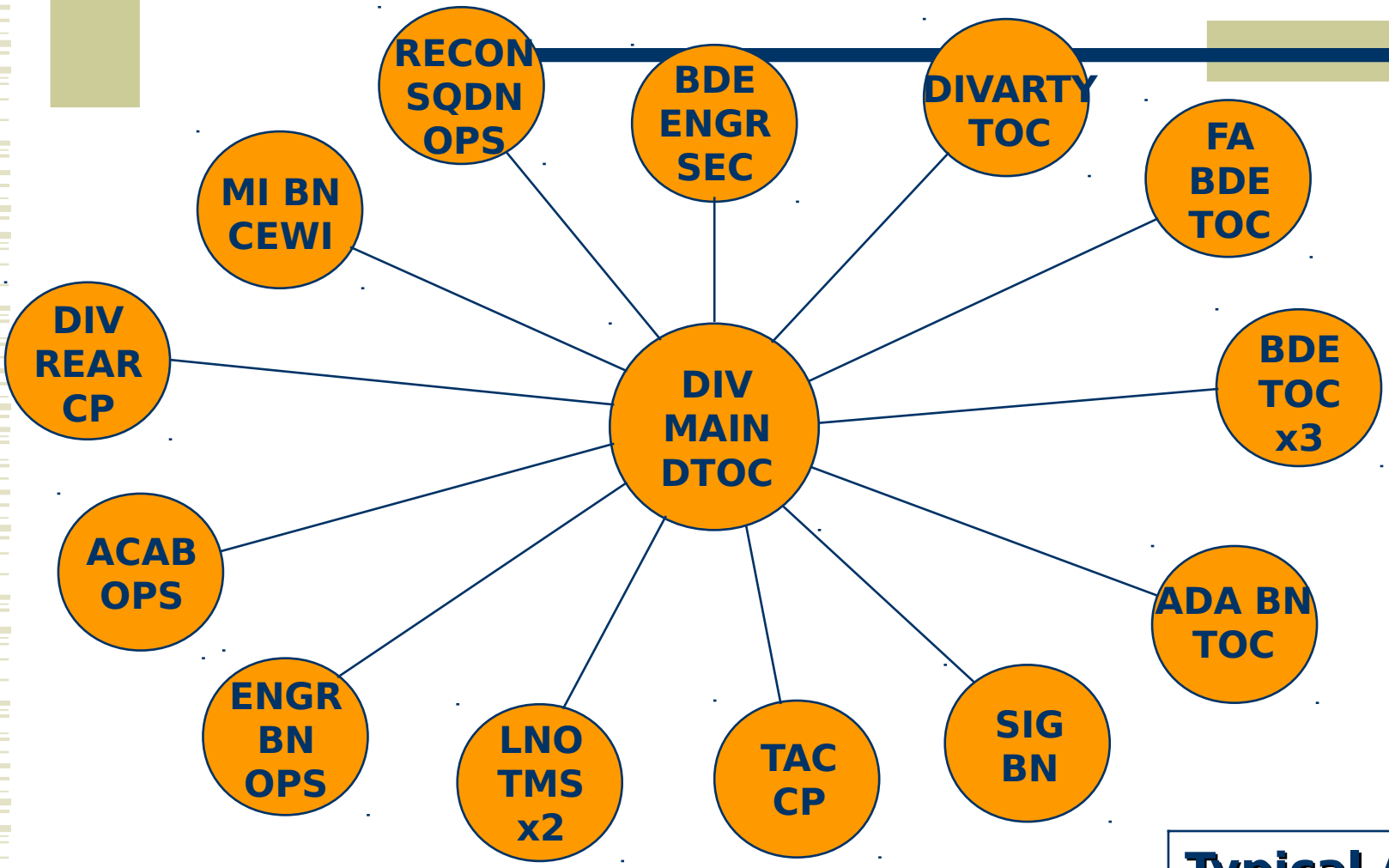
Advanced System Improvement Program (ASIP)

ASIP

Advanced System Improvement Program (ASIP)

- Provides
  - Same capabilities as SINCGARS
  - Half the Size / Weight
  - Increased Digital Capabilities
- Capabilities
  - Completely backwards compatible with SINCGARS
  - Distance: 200 meters – 40 km (4 power settings)

IHFR



Typical AM Div Cmd Net

IHFR

Improved High Frequency Radio

- Used for medium to long range communications (50 to 300 km)
- Doctrinal HF Networks
  - Command Nets
  - Reconnaissance and Cavalry
  - Medical units.

IHFR

AN/PRC 104

- Characteristics
  - Primary Users – single soldier
  - Distance – Medium to Long
  - Frequency Range – 20 – 29.9999

IHFR

AN/GRC 213

- Characteristics
  - Primary Users – Vehicle
  - Distance – Medium to Long
  - Frequency Range – 20 – 29.9999

IHFR

AN/GRC-193

- Characteristics
  - Primary Users – Vehicles / Fixed Station
  - Distance – Long
  - Frequency Range – 30 – 29.9999

SC TACSAT

- Provides worldwide communications.
- Highly mobile with minimum setup and breakdown times.

AN/PSC-5
SPITFIRE

SC TACSAT

- Special Forces
  - Group/detachment headquarters, forward operating bases, and operational teams spread over extended distances.
- Rangers
  - Regiment/battalion C2 nets from regimental HQ's to company HQ's.
- LRSU Nets
  - Long range patrols.
- Airborne/Air Assault Divisions & most Heavy Divisions.
  - Long haul C2 net linking major HQ's during initial deployment.
  - Redundant C2 net during operations.

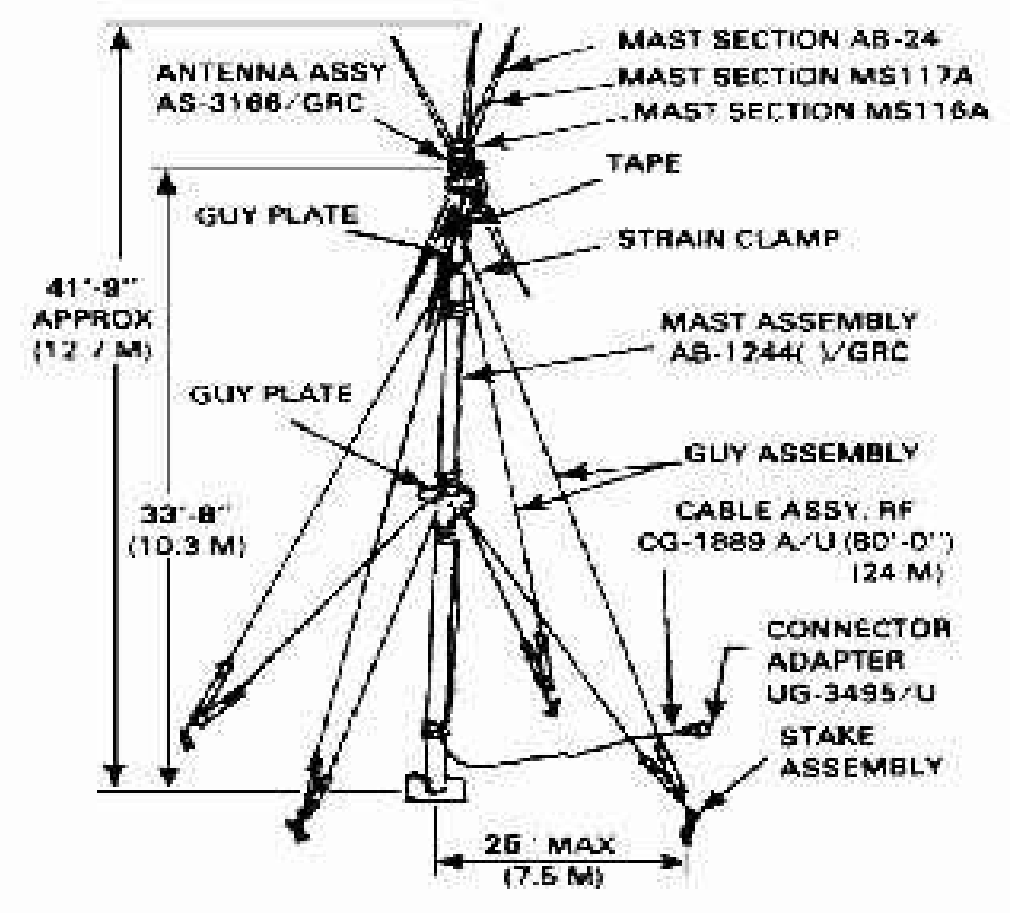
SC TACSAT

AN/PSC-5 SPITFIRE TACSAT RADIO

- Virtually unlimited Distan
- Embedded COMSEC
- Multiple Operating Mode
  - Relay
  - Retrans
- Internal Diagnostics

TACTICAL ANTENNAS

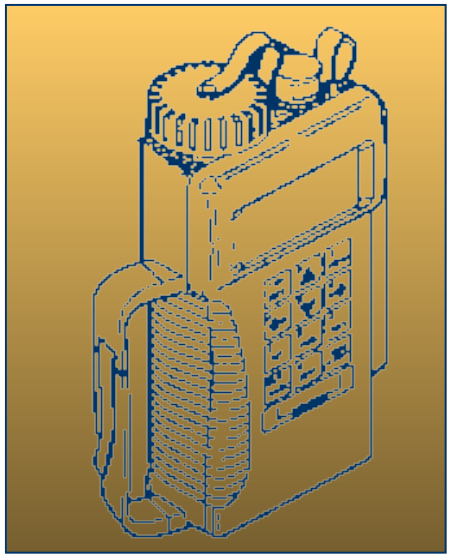
Antenna Set OE-254

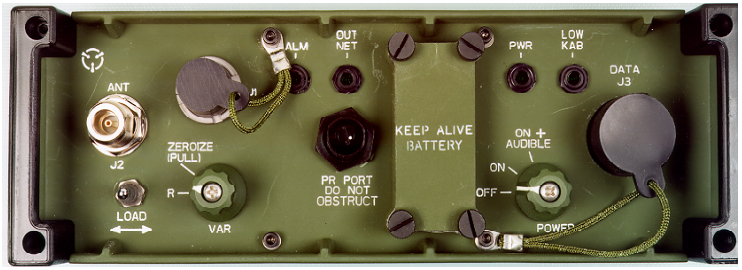


- Extends range of FM systems
- Omni-Directional Antenna.
- Quick set-up and break-down.

ADDS (Data Devices)

EPLRS
ENHANCED POSITION LOCATION REPORTING SYSTEM





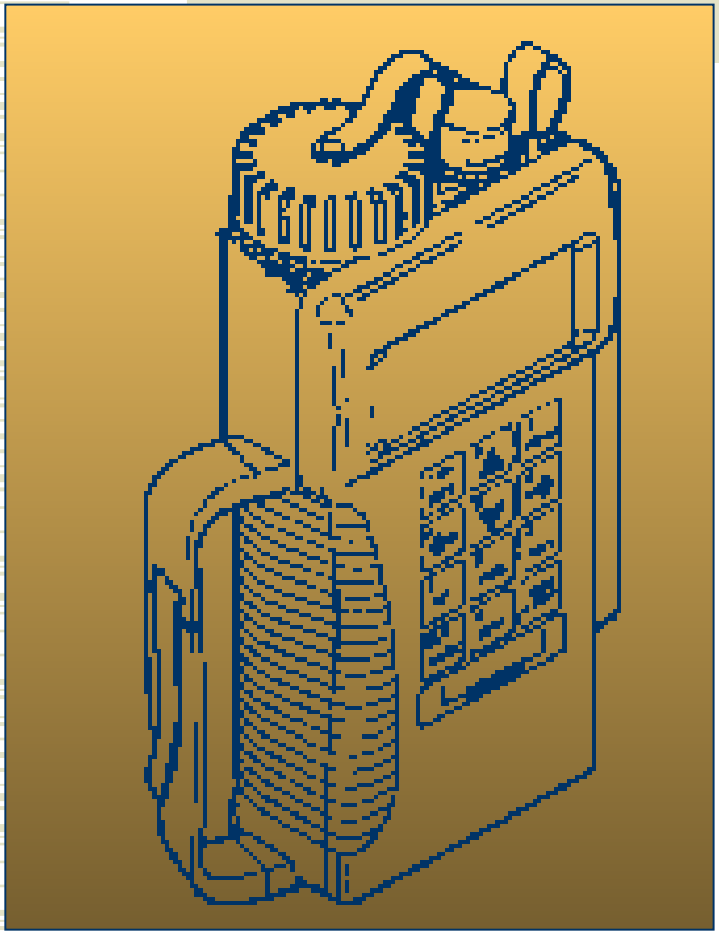
ADDS

Army Data Distribution System

- Primary system for passing data communications.
- Distribute Data to lowest tactical level.
- Enhanced Positioning Location Reporting System (EPLRS).
- Joint Tactical Information Distribution System (JTIDS).

PLGR

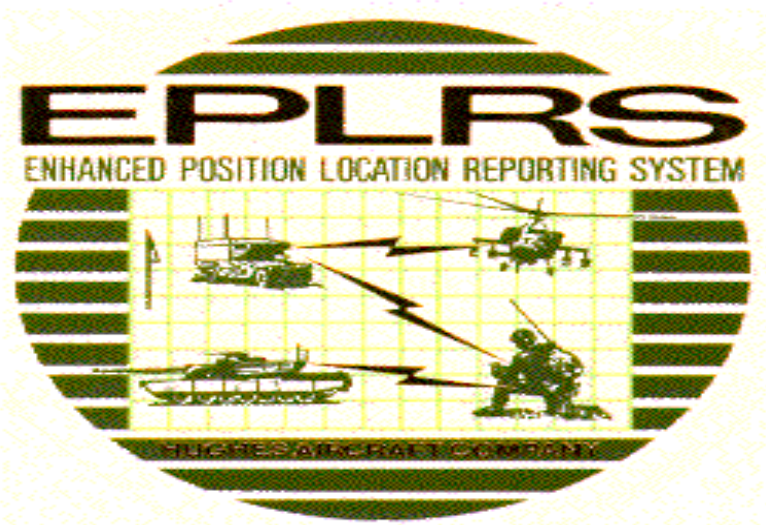
AN/PSN-11 Precision Lightweight GPS Receiver



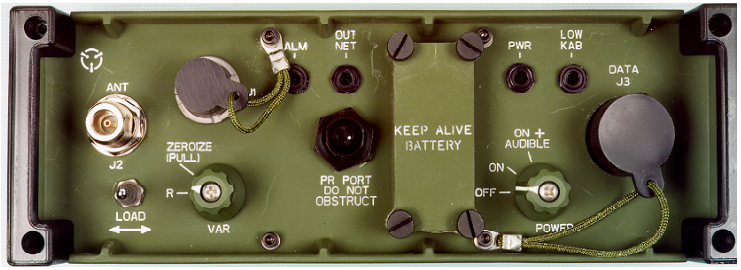
- Highly accurate Satellite Signals Navigation Set that operates as part of NAVSTAR GPS.
- Designed for battlefield use anywhere in the world.
- Sealed watertight for all-weather day or night operation.

EPLRS

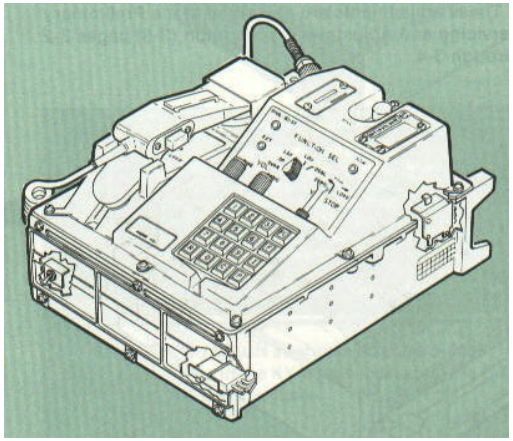
Enhanced Position Location Reporting System

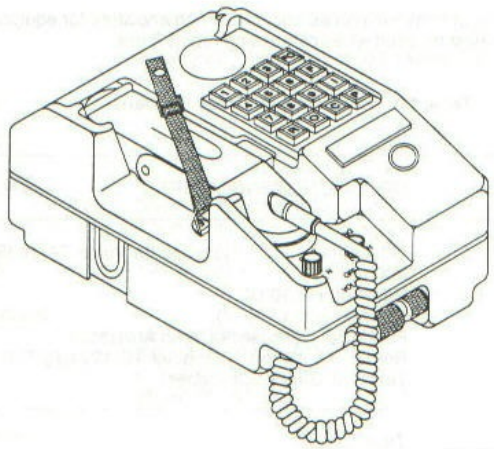


- Description
  - Distributes accurate position location, navigation, and identification information for improved battlefield C^2
  - Allows user-to-user digital (text-based) communications.
- Provides
  - Position location and reporting
  - Navigation information
  - Friendly identification
  - Cooperative targeting
  - Timely threat warnings



PHONES





STE

- Provides
  - Secure Telephone
  - User Identification
- Capabilities
  - Data Transfer
  - FAX
  - Conferencing

MSRT

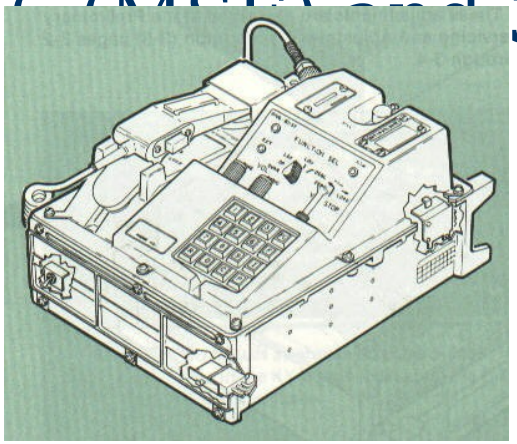
AN/VRC-97 Mobile Subscriber Radio-Telephone

- Consists of a VHF radio and a DSVT.
- Can be installed in vehicles or used in a stand alone configuration.
- The Army's Secure Cell Phone

DSVT

KY-68 Digital Secure Voice Telephone

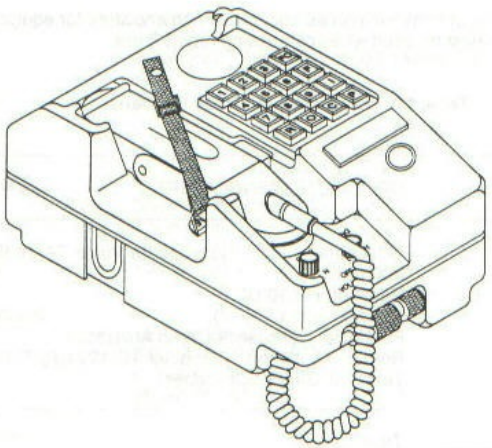
- Used for encrypting/decrypting voice traffic and provides secure digitized data traffic.
- Operates as a voice/data subscriber terminal at 16 (MSE) and 32 kb/s (TRI-TAC).



DNVT

TA-1035 Digital Non-secure Voice Telephone

- Primary device used by subscribers to access the MSE and TRI-TAC network.
- 4-wire nor[illegible]hone



INTRO TO S6 – Commo Section's Mission

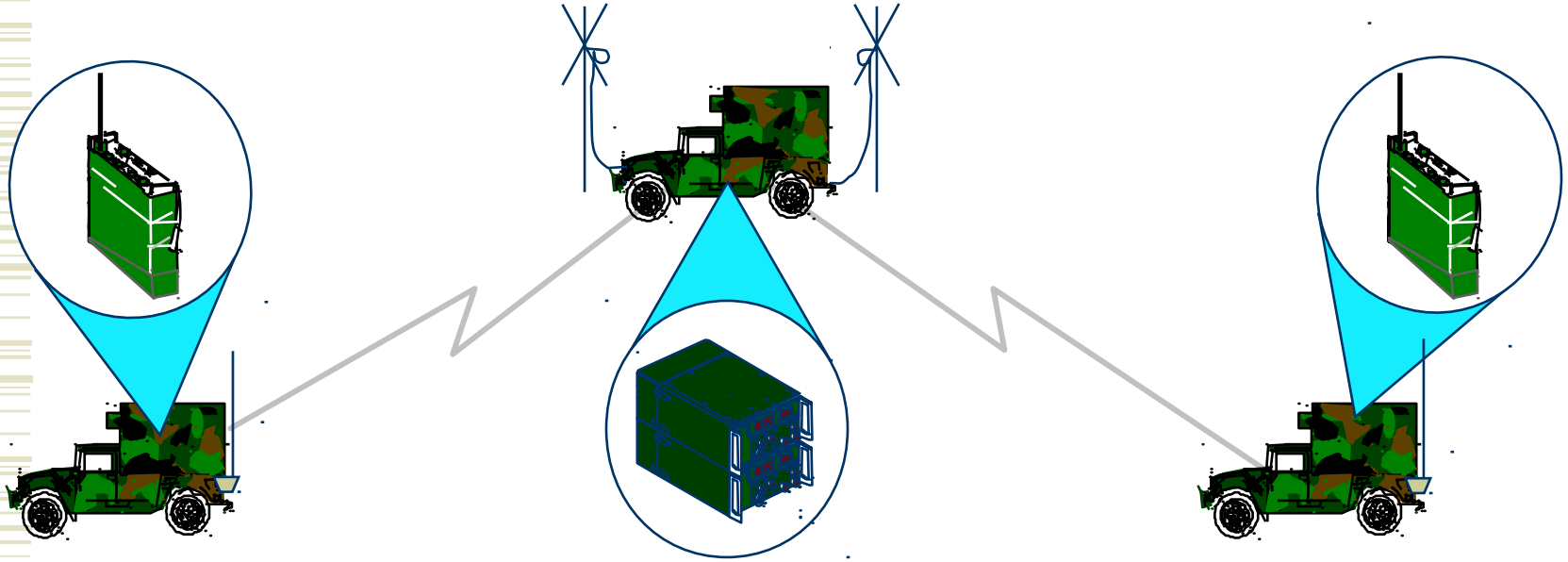
COMMO SECTION MISSION

- Retransmission Operations
- Wire and Cable Operations
- Maintenance Operations
- Communications Security
- Troubleshooting/Training

COMMO SECTION MISSION

Retransmission Operations –

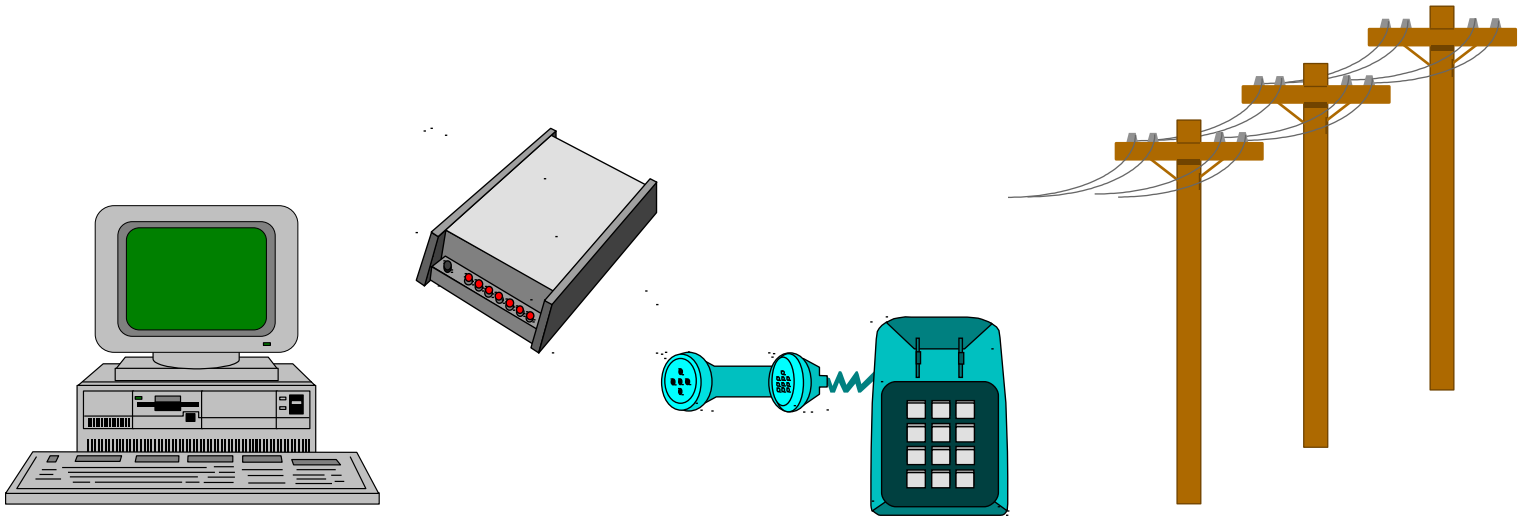
- Overcoming distance or terrain



COMMO SECTION MISSION

Wire and Cable Operations –

- IOM and retrieve wire or cable systems used to connect communications equipment (i.e.. phones or computers).



COMMO SECTION MISSION

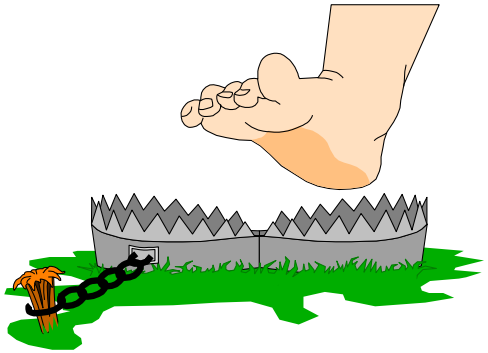
Maintenance Operations --

- limited maintenance abilities
- isolate faults by troubleshooting and determine what need to be sent to the FSB.

COMMO SECTION MISSION

Communications Security –

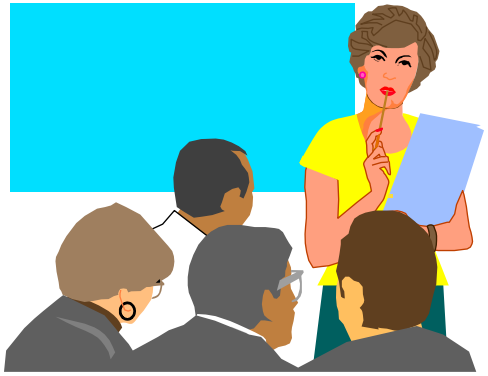
- Cryptovariable (COMSEC)
- - Devices (AN/CYZ-10)
- - Signal Operating Instructions now done in RBECS



COMMO SECTION MISSION

Troubleshooting/Training –

- Subject matter expert support
- Teach and develop skills in non-signal MOS soldiers to enhance readiness



Summary

- Equipment
  - COMSEC
  - COMBAT NET RADIO
  - DATA DEVICES
  - PHONES
- Commo Section